

Hesperostipa comata – (*Bouteloua eriopoda* – *Pleuraphis jamesii*) Herbaceous Vegetation

MAP CLASS	Needle-and-Thread Grassland
COMMON NAME	Needle-and-Thread – (Black Grama – Galleta) Herbaceous Vegetation
PHYSIOGNOMIC CLASS	Herbaceous Vegetation (V)
PHYSIOGNOMIC SUBCLASS	Perennial graminoid vegetation (V.A)
PHYSIOGNOMIC GROUP	Temperate or subpolar grassland (V.A.5)
PHYSIOGNOMIC SUBGROUP	Natural/Semi-natural Temperate (V.A.5.N)
FORMATION	Medium-tall bunch temperate or subpolar grassland (V.A.5.N.d)
ALLIANCE	<i>Hesperostipa comata</i> Bunch Herbaceous Alliance

CLASSIFICATION CONFIDENCE LEVEL Weak

USFS WETLAND SYSTEM Upland

RANGE

Wupatki National Monument

Needle-and-Thread – (Black Grama – Galleta) Herbaceous Vegetation is a common association in Wupatki NM and in the environs. This association was located from our relevé data mainly in the northwestern half of Wupatki NM. It specifically occurred in Woodhouse Mesa, Antelope Prairie, and White Mesa. It also occurred on the Babbitt Ranches land on North Mesa in Antelope Prairie, West Mesa, and near the western boundary of Wupatki NM.

ENVIRONMENTAL DESCRIPTION

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This association's elevation ranged from 5,118-5,545 ft (1,560-1,690 m) (average 5,364 ft/1,635 m). The substrate always consisted of a black cinder component, with intermixed basaltic cobbles, lava flow, clay, and limestone soils. The slope was often flat; however, it ranged from 0-25% (average 5%).

MOST ABUNDANT SPECIES

Wupatki National Monument

Stratum

Herbaceous

Species

Bouteloua eriopoda, *Hesperostipa comata*, *Pleuraphis jamesii*

ASSOCIATED SPECIES

Wupatki National Monument

Achnatherum hymenoides, *Aristida purpurea* var. *longiseta*, *Artemisia filifolia*, *Atriplex canescens*, *Bouteloua curtipendula*, *Bouteloua gracilis*, *Chaetopappa ericoides*, *Ephedra viridis*, *Ericameria nauseosa*, *Fallugia paradoxa*, *Gutierrezia sarothrae*, *Juniperus monosperma*, *Krascheninnikovia lanata*, *Muhlenbergia porteri*, *Psilostrophe sparsiflora*, *Sporobolus airoides*, *Sporobolus contractus*

VEGETATION DESCRIPTION

Wupatki National Monument

Needle-and-Thread – (Black Grama – Galleta) Herbaceous Vegetation total vegetation cover ranges from 25-60% (average 44%) with 0-20% (average 6%) in the shrub layer and 22-52% (average 38%) in the herbaceous layer. The total species diversity ranged from 5-17 species (average 10) within the 21 relevés sampled.

The shrub layer was not dominated by a single species; however, *Ericameria nauseosa* was present in 18 of the 21 relevés with absolute cover ranging from 0-14% (average 3%). *Hesperostipa comata* was an indicator in the herbaceous class with absolute cover of 8-40% (average 18%). *Bouteloua eriopoda* and *Pleuraphis jamesii* both frequently occur within this association, but do not need to be present. *Bouteloua eriopoda* ranged from 0-27% absolute cover (average 8%) and *Pleuraphis jamesii* ranged from 0-23% absolute cover (average 11%).

CONSERVATION RANK G?

DATABASE CODE CEGl002997

USGS-NPS Vegetation Mapping Program
Wupatki National Monument

MAP CLASSES

The association Needle-and-Thread – (Black Grama – Galleta) Herbaceous Vegetation is represented by map classes Needle-and-Thread Grassland (map code 9).

Needle-and-Thread – (Black Grama – Galleta) Herbaceous Vegetation was difficult to distinguish because of the potential for mixed grass species dominance. Therefore, this association was only mapped as a Needle-and-Thread Grassland with stands of relatively pure ($\geq 50\%$) Needle-and-Thread Grass. Stands of mixed Needle-and-Thread and Galleta were mapped as Mixed Galleta Grassland and stands of mixed Needle-and-Thread and Black Grama were classified as Black Grama Grassland.

The total area mapped of Needle-and-Thread Grassland within Wupatki NM is 729 ac (295 ha) within 44 polygons and the total area in the park environs is 830 ac (336 ha) within 77 polygons.

COMMENTS

Wupatki National Monument

Hesperostipa comata is the diagnostic species in this association; however, it is not always the most dominant species in the association. In relevés where *Hesperostipa comata* is the dominant grass of the association, the photosignature of this type is often indistinguishable from pure stands of *Bouteloua eriopoda* or *Pleuraphis jamesii*.